

WD AV-GP

Power-saving Hard Drives

24x7 Reliability
Cool Running
Whisper Quiet



Ideal for set top boxes, media servers, media centers, and mainstream surveillance systems.



GreenPower for AV: Cool. Quiet. Reliable.

Power-conserving WD AV-GP SATA hard drives take advantage of WD's GreenPower™ technology to meet the extreme requirements of demanding audio and video environments. With power reduction of up to 40%, they deliver cool and quiet operation and reliability perfect for audio video applications such as PVRs, DVRs, set-top boxes (STBs) as well as surveillance video recording.

- **Long-Term Reliability** – These drives are designed to last in high temperature, always-on, streaming digital audio/video environments.
- **Reduced Power Consumption** – WD has reduced power consumption by up to 40 percent compared to competitors' drives with the combination of WD's IntelliSeek™, IntelliPark™, and IntelliPower™ technologies.
- **Quiet** – Noise levels have been optimized to less than one sone* – virtually below the threshold of human hearing.

Technology Features

SilkStream™ – Optimized for smooth, continuous digital video playback of up to twelve simultaneous HD streams. SilkStream is compatible with the ATA streaming command set so CE customers can use standard streaming management and error recovery options.

IntelliSeek – Calculates optimum seek speeds to lower power consumption, noise, and vibration.

IntelliPower – A fine-tuned balance of spin speed, transfer rate, and caching algorithms designed to deliver both significant power savings and solid performance.

IntelliPark – Delivers lower power consumption by automatically unloading the heads during idle to reduce aerodynamic drag.

Preemptive Wear Leveling (PWL) – The drive arm frequently sweeps across the disk to reduce uneven wear on the drive surface common to audio video streaming applications.

*A sone is a subjective unit of loudness as perceived by a person with normal hearing.

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Physical Specifications

	500 GB (2-disk)	750 GB (3-disk)	1 TB (4-disk)
Model numbers	WD5000AVVS	WD7500AVCS	WD10EVCS
Formatted capacity ¹	500,107 MB	750,156 MB	1,000,204 MB
User sectors per drive	976,773,168	1,465,149,168	1,953,525,168
Interface	SATA 3 Gb/s	SATA 3 Gb/s	SATA 3 Gb/s
Form factor	3.5-inch	3.5-inch	3.5-inch
Bytes per sector (STD)	512	512	512
Actuator latch/auto park	Yes	Yes	Yes
SATA latching connector	Yes	Yes	Yes
RoHS compliant ²	Yes	Yes	Yes

Performance Specifications

Data Transfer Rate	
Buffer to host	3 Gb/s ³
Buffer to disk	1160 Mbits/s max
Rotational speed	IntelliPower
Read cache	Adaptive
Write cache	Yes
Buffer	16 MB (WD7500AVCS, WD10EVCS) 8 MB (WD5000AVVS)
Average drive ready time	11.0 sec (2-disk models) 17.0 sec (3- and 4-disk models)
Load/unload cycles ⁴	300,000
Error rate (non-recoverable)	<1 in 10 ¹⁵ bits read

Physical Dimensions

Height	1.028 in (25.4 mm) max
Length	5.787 in (147.0 mm) max
Width	4.0 in (101.6 mm) ± .01 in
Weight (2-disk models)	1.39 lb (0.63 kg) ± 10%
Weight (3-disk models)	1.52 lb (0.69 kg) ± 10%
Weight (4-disk models)	1.61 lb (0.73 kg) ± 10%

Power Requirements (2-disk Models)⁵

Mode	12V (±10%)	5V (±5%)	Power
Read/Write	220 mA	700 mA	6W
Idle	180 mA	220 mA	3.3W
Standby	6 mA	180 mA	0.97W
Sleep	6 mA	180 mA	0.97W

Power Requirements (3- and 4-disk Models)⁵

Mode	12V (±10%)	5V (±5%)	Power
Read/Write	340 mA	675 mA	7.4W
Idle	254 mA	195 mA	4W
Standby	6 mA	180 mA	0.97W
Sleep	6 mA	180 mA	0.97W

Environmental Specifications⁶

Shock

Operating (2 ms)	30G (read/write), 65G (read)
Non-operating (2 ms)	300G (2-disk models) 250G (3- and 4-disk models)

Half sine wave measured in 2 ms duration, measured without isolation.

Vibration

Operating-Random	
-Random	0.004 g 2/Hz (10 to 300 Hz)
-Linear	20-300 Hz, 0.75G (0 to peak)
Non-operating	
-Random	0.05 g 2/Hz (10 to 300 Hz)
-Linear	20-500 Hz, 4.0G (0 to peak)

Operating Ambient Temperature & Humidity

Temperature	0° C to 60° C
Humidity	5-95% RH non-condensing
Thermal Gradient	20° C/hour max

Non-Operating Temperature & Humidity

Temperature	-40° C to 65° C
Humidity	5-95% RH non-condensing
Thermal Gradient	30° C/hour

Acoustics (average)⁷

Idle mode	24 dBA
Quiet seek mode	25 dBA

Reliability

MTBF	1,000,000 hours
Limited warranty ⁸	3 years



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¹ One gigabyte (GB) = one billion bytes. One terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment.

² WD hard drive products manufactured and sold worldwide after June 1, 2006, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the European Union for electrical and electronic products. The RoHS Directive 2002/95/EC of the European Parliament, which is effective in the EU beginning July 1, 2006, aims to protect human health and the environment by restricting the use of certain hazardous substances in new equipment, and consists of restrictions on lead, mercury, cadmium, and other substances.

³ Effective maximum native SATA 3 Gb/s transfer rate.

⁴ Controlled unload at ambient condition.

⁵ 3.3V SATA power not utilized in this product.

⁶ No non-recoverable errors during operating tests or after non-operating tests.

⁷ Sound power level.

⁸ Three-year limited warranty unless otherwise required by law.

